

Attorney Docket No. 10124/04102 -- 05-00054US2

**REMARKS**

Claims 39 - 59 are now pending in the present application. Claims 39, 45, 55, and 58 have been amended and claim 59 has been added. No new matter has been added. In view of the previous amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable.

Claims 39 - 58 stand rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,842,995 to Mahadevan-Jansen et al. ("Mahadevan") in view of U.S. Patent No. 5,503,559 to Vari ("Vari") in further view of Anidjar et al. ("Ultraviolet Laser-Induced Autofluorescence Distinction Between Malignant and Normal Urothelial Cells and Tissues"). (See 4/16/2008 Office Action, p. 2). The Examiner states, in support of the rejection, that Mahadevan shows the invention substantially as claimed except for a spectrometer having a distal end "comprising a light emitting portion providing ultraviolet (UV) light," as recited in claim 39. To cure this deficiency, the Examiner has referenced Anidjar, which describes the use of laser-induced fluorescence to discriminate tumors from normal surrounding tissue. (See Anidjar, p. 335).

Claim 39 has been amended and now recites a tissue spectroscopy device comprising "a spectrometer having a distal end *comprising a light emitting portion providing to tissue only ultraviolet (UV) light* and a light detector; and an interventional device for delivering said spectrometer to a tissue."

In contrast, at no point in the Anidjar disclosure does Anidjar explicitly recite providing light exclusively in the ultraviolet (UV) wavelength spectrum, which, by definition comprises wavelengths of 1 nm. to 400 nm. Rather, Anidjar seeks to apply three wavelengths to a tissue sample: "308 nm for Trp and NADH excitation, 337 nm for NADH excitation, and 480 for flavin excitation." (See Anidjar, p. 336, ¶ 3). Furthermore, Anidjar explains that a "fluorescence intensity ratio at 360 and 440 nm can accurately discriminate normal or inflammatory mucosa

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from all bladder tumors, including CIS.” (See *Anidjar*, p. 335, Abstract). The results obtained in *Anidjar* show that the 308 nm excitation wavelength yielded two distinct fluorescent bands at 360 nm and 430 nm while the 337 nm and 480 nm excitation wavelengths yielded one distinct fluorescent band. (See *Anidjar*, p. 337, Results). Accordingly, since not all excitation wavelengths fall within the UV range and not all UV excitation wavelengths are desirable in *Anidjar*, this reference provides no motivation to those skilled in the art to utilize only UV light. Rather, such a modification would indicate an improper hindsight reconstruction of the invention.

The Examiner has inferred, from the study carried out in *Anidjar*, that “it is the wholehearted inten[t] [of] *Anidjar* to pursue a method that will be applicable *in vivo*.” (See 4/16/2008 Office Action, p. 4). In support of the rejection, the Examiner indicates that *Anidjar* states that “tissue optics and morphology were considered in the interpretation of the spectra, constituting a preliminary step to *in vivo* LIAFS.” (See *Anidjar*, p. 336, ¶ 3). The method addressed in *Anidjar* is only employable *in vitro*, in which *Anidjar* places the tissue specimen on a quartz plate. (See *Anidjar*, p. 336, ¶ 6 and Fig. 1, p. 338 ¶ 2, p. 339 ¶ 3). Furthermore, nowhere in *Anidjar* is an *in vivo* method taught or disclosed. In fact, *Anidjar* states only that this is a preliminary step to *in vivo* methods clearly implying that the description in this paper is lacking the additional steps that would be required to achieve such methods. *Anidjar* neither recites a method for nor suggests any specific apparatus for utilizing its device *in vivo*. Furthermore, a complete redesign of the device disclosed by *Anidjar* would be necessary to perform an *in vivo* study. Nowhere in *Anidjar* is any direction given toward such a redesign. Thus, the Applicant respectfully submits that the Examiner’s assumption that a “preliminary step to *in vivo*” signifies *Anidjar*’s “wholehearted inten[t]” is unsupported by any concrete disclosure teaching those in the field how to achieve this goal.

Furthermore, the Examiner asserts that Mahadevan discloses a spectrometer device comprising an interventional device for which no citation is given as support. (See 4/16/2008

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Office Action, p. 2). Mahadevan describes throughout a probe containing a spectrometer which can be placed inside a body cavity, but never mentions how or by what means the device is placed inside the cavity. (See Mahadevan, Fig. 6, Fig 12). Mahadevan discloses the specifications only of the said spectrometer. Nowhere does Mahadevan mention or describe "an interventional device for delivering said spectrometer to a tissue," as recited in claim 39.

It is respectfully submitted that both Mahadevan and Vari fail to cure the above noted deficiencies of Anidjar and that Mahadevan, Vari and Anidjar, taken either alone or in any combination, fail to teach or suggest a "tissue spectroscopy device comprising: a spectrometer comprising a distal end, said distal end comprising *a light emitting portion providing to tissue only ultraviolet (UV) light* and a light detector; and an interventional device for delivering said spectrometer to a tissue," as recited in claim 39. Therefore, Applicant submits that claim 39 is allowable for at least the reasons previously mentioned. Because claims 40 - 54 and 59 depend from and, therefore, include the limitations of claim 39, it is respectfully submitted that these claims are also allowable.

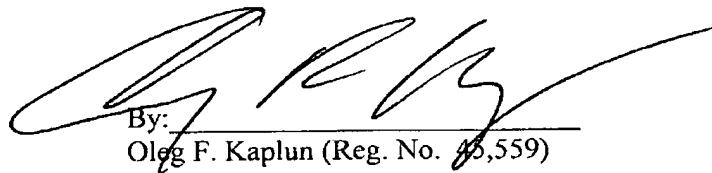
Amended claim 55 recites limitations substantially similar to those of the amended claim 39, including "providing a spectrometer comprising a distal end, said distal end comprising a light emitting portion and a light detector" and "using an interventional device to deliver said spectrometer to a tissue" in combination with "connecting said spectrometer to a power source" and "transmitting only ultraviolet (UV) light through said light emitting portion to illuminate said tissue." Thus, it is respectfully submitted that claim 55 is allowable for the same reasons noted above in regard to claim 39. Because claims 56 - 58 depend from and, therefore, include the limitations of claim 55, it is respectfully submitted that these claims are also allowable.

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In light of the foregoing, Applicant respectfully submits that all of the presently pending claims are in condition for allowance. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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